

- ✓ Page 8, line 29, delete the words "liquid-crystal alignment".
- ✓ Page 20, lines 28, 29 and 30, delete the words "liquid-crystal alignment".
- ✓ Page 21, lines 4 to 5, delete the words "liquid-crystal alignment".
- ✓ Page 23, lines 5, 6, 7 and 14, delete the words "liquid-crystal alignment".

IN THE CLAIMS:

A version of the amended portions of the Claims with markings to show changes made is included at the end of this document.

Please amend the claims as follows:

B₁

1. A method of preparing a multi-domain liquid-crystal display, which is operable in the in-plane switching mode, comprising the steps of:
depositing a dry deposit alignment layer on a substrate; and
aligning said dry deposited layer using at least two methods selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field.

B₂

4. The method of claim 1, wherein said photo-resist method comprises:
depositing on a transparent conductive layer on a substrate a material to form said dry deposited layers;
partitioning said dry deposited layers into first domain areas and second domain areas of the dry deposited layers;
bombarding said dry deposited layers with a first ion beam; thereafter
covering said first domain areas of said dry deposited layers with a mask leaving said second domain areas open;
bombarding said second domain areas with a second ion beam; and
removing said mask.

9. A multi-domain, wide viewing angle liquid-crystal display, comprising:
a bottom substrate having a first surface;
a first transparent conductive layer disposed over said first surface of said bottom substrate;
a top substrate having a second surface;
a color filter layer disposed over said second surface of said top substrate;
a second transparent conductive layer disposed over said color filter;
a first dry deposited layer over said first transparent conductive layer;
a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;
a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and
a liquid-crystal material disposed in the space therebetween;

B3 wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods,

wherein said dry deposited layers are exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layers at an adjustable angle with respect to said dry deposited layers, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

10. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by mechanical mask method.

11. The multi-domain, wide viewing angle liquid-crystal display of claim 10, wherein said mechanical mask method comprises:

8y depositing on a substrate a material to form a transparent dry deposited layer; masking said dry deposited layer into first domain areas and second domain areas of the dry deposited layer with a mask; and selectively bombarding said dry deposited layer with an ion beam through said mask.

85 18. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by photo-resist method.

86 22. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by said UV treatment method.

87 26. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by said ridge and fringe field method.

88 29. An improved method of preparing a liquid-crystal display of the type having the steps of forming a first dry deposited layer, forming a second dry deposited layer, spacing the first dry deposited layer and the second dry deposited layer adjacent to and facing each other and filling a liquid-crystal material in the space therebetween, wherein the improvement comprises the steps of:

forming a first multi-domain dry deposited layer;

forming a second multi-domain dry deposited layer;
spacing said first multi-domain dry deposited layer and said second multi-domain dry deposited layer adjacent to and facing each other; and
filling a liquid-crystal material in the space therebetween;
wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

30. An improved method of preparing an in-plane switching mode liquid-crystal display of the type having the steps of forming a first polyamide alignment layer and a second polyamide alignment layer, wherein each of the first and second layers is rubbed with a mechanical roll wrapped in a velvet cloth, wherein the improvement comprises the steps of:

forming a first dry deposited alignment layer;
forming a second dry deposited layer;
spacing said first dry deposited layer and said second dry deposited layer adjacent to and facing each other; and
filling a liquid-crystal material in the space therebetween;
wherein each of said dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field;

wherein said dry deposited layer is exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layer at an adjustable angle with respect to said dry deposited liquid-crystal alignment layer, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

31. A wide viewing angle in-plane switching mode liquid-crystal display, comprising:

a bottom polarizer;

a bottom substrate;

a top polarizer;

a top substrate;

a color filter layer disposed over a surface of said top substrate;

a plurality of common electrodes disposed in the bottom substrate plane and a plurality of pixel electrodes disposed in a staggering relationship therewith to form a comb-like structure for producing an electric field parallel to plane of said bottom substrate so that when operated, the molecules of said liquid-crystal material are switched to rotate by said vertical electric field in a direction parallel to the substrate surface;

a first dry deposited layer over said bottom substrate and said comb-like electrodes;

a second dry deposited layer over said color filter layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and

a liquid-crystal material disposed in the space therebetween;

wherein said dry deposited layer is exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layer at an adjustable angle with respect to said dry deposited layer,

wherein said dry deposited layers are aligned by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field, and

wherein said liquid-crystal display is operable in the in-plane switching mode.